Cross Pollination

Newsletter of the Halton Master Gardeners

August Garden To Do List

- ❑ **Perennials -** Cut back any tired looking perennials and remove yellowed or dying stems & leaves. Remove seed heads to control spread of aggressive self-sowing perennials or to save for winter sowing of perennials. Seed heads can also be left to feed birds in the late summer & fall.
- ❑ **Annuals** – Pinch back old flower heads to keep plants producing flowers.
- ❑ **Weeds -** Every weed pulled now is a thousand weeds you won't have to deal with later! Removing flowers before they go to seed will greatly reduce the seed bank in the soil for next year. Don't add flowers or seeds to compost.
- ❑ **Lawn** – Check your local municipality for watering restrictions (Halton). Yellow (dormant) lawns should bounce back in the fall when there is more rain. More info about dormant grass here. Later in the month, over-seed with drought resistant grass, e.g. perennial rye grass or red fescue then top dress.
- ❑ **Veggies -** Water during dry or hot weather to reduce plant stress. Remove diseased & damaged leaves/fruit. Do not over fertilize tomatoes as it can contribute to blossom end rot. As you pull out 'old' plantings such as bolted lettuce, add new plantings like chard, radishes, carrots, kale, spinach, turnips, beets, basil. Identify pests troubling your veggie garden to take effective action. Harvest vegetables and berries regularly so that the plants keep producing.
- ❑ **Asparagus & rhubarb** - Keep well weeded and mulch heavily. Let asparagus fronds grow to feed the underlying crowns. Continue picking rhubarb. Prune off rhubarb flower stalks to send energy back to the plant.
- ❑ **Strawberries -** August is a good time to renovate your beds.
- ❑ **Seeds** – Start saving seeds for next year, e.g. dill, lettuce, your earliest ripe tomato.
- ❑ **Powdery mildew** – Remove the worst affected leaves/stems. A simple spray of water on leaves during the day may reduce disease. Research indicates that a milk & water spray can be effective.
- ❑ **Water** – Avoid watering in the hottest part of the day; water any spring planted trees & plants regularly, & existing trees less frequently, but deeply to the root zone. Water the base of plants, not the foliage, or use soaker hoses.
- ❑ **Compost pile** – Water compost to accelerate decomposition. Use water from food prep , e.g. pasta "water", tea/coffee
- ❑ **Gypsy moth** – Now through to April scrape or vacuum egg masses off trees and structures.

Native Nodding Wild Onion is a great native plant replacement for Stella d'oro day lilies.
Photo: L. Johnson

August 2020

Female gypsy moth laying eggs
Brown egg masses can be scraped or vacuumed!
Photo: Ontario Invading Species Awareness Program

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The Maple Leaf Forever!

Allyn Walsh - Halton Master Gardener

Maple trees are what we think of when we think of Canada – and that was so even before our national flag was first flown. Maples are known for their palmate leaves with vibrant autumn colours and fruit in winged pairs known as samaras. There are 150 known species of maple, with 10 native to Canada. A favorite of birds for insect foraging as well as nesting, **native** maple trees are larval hosts to hundreds of caterpillars attracting Scarlet Tanagers, Warblers and Woodpeckers. The seeds provide food for birds, and the tree itself offers shelter to wildlife. Unfortunately, all too many of the maple trees we see on our streets, in the countryside and even in nurseries are not our native species. Let's review a few of our most common native maples – and then take a look at a couple of invasive maples…

***Acer saccharum* (sugar maple)**

The sugar maple is a well-beloved tree in our region due to its autumnal glory as well as its use in producing maple syrup. Many consider its leaf to be represented on the Canadian flag. It is a large tree up to 35 metres tall and is very long lived. The leaves are palmate with smooth leaf margins between its 5 lobes 8-20 cm long. In autumn leaves turn yellow orange or red, making a fine show. Smooth and gray when young, the bark darkens and splits into vertical ridges as it gets older. The seeds are produced yearly, and are contained in reddish coloured keys, 30-35 mm long.

Acer saccharum has the reputation of being finickity and intolerant of pollution but as long as it is planted in rich well drained soils with good sun exposure & adequate moisture, it will do well.

Sugar maple images from the Ontario Tree Atlas

***Acer saccharum* var. *nigrum* (black maple)**

The black maple is a less common variation, or subspecies, of sugar maple which may have better tolerance for heat and drought. Some consider it a separate species. These trees are distinguished from sugar maple proper by the leaves which droop at the sides and are downy on the undersurfaces. Their autumn colour is almost as attractive as well. The bark is darker, almost black, hence its name. This is an increasingly popular street tree in our region.

Black maple images from University of Guelph Arboretum

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The Maple Leaf Forever continued

Acer rubrum **(red maple)**

The red maple is a medium sized tree and can grow up to 25 meters tall with its trunk 60 cm in diameter. The leaves are 5-15 cm long, light green on top, paler underneath and turn very red in autumn, hence its name. It is important to not to confuse this native tree with the commonly seen red-leaved maple trees which are a variety of Norway maple – "Crimson King" – more on that later. The bark is smooth and light grey, turning greyish brown, scaly & with ridges as the tree ages. The red maple can tolerate some shade, and different moisture levels but does best in moist soil and sun. In the open, the main stem tends to divide several times leaving it susceptible to breaking so maintenance is needed to keep its form strong.

Red maple images from Ontario Tree Atlas

Acer saccharinum **(silver maple)**

The silver maple is a large and fast-growing tree, attaining up to 35 metres in height, with a trunk diameter of 100 cm. Its leaves are light green, silvery white below, 15-20 cm with 5 or 7 heavily indented lobes distinguishing it from other maples. In the autumn, leaves turn yellow or brown, not red. These leaves are particularly thin and break down easily when composted. The bark is smooth and grey, becoming darker with age and breaking into distinctive strips that peel at either end giving a shaggy appearance. Another maple which prefers rich moist soil and full sun, it tolerates city streets although care must be taken as the roots spread aggressively and can clog sewer pipes and buckle sidewalks.

Silver maple images from Ontario Tree Atlas

There are some very useful websites for learning about trees! Great photos and Helpful information - Take a look here:

- Ontario Tree Atlas **an excellent reference for native Ontario trees**
- U of Guelph Arboretum **good source for both native and naturalized trees**
- Trees Canada **Celebrate or commemorate by planting trees**
- Canadian Tree Tours **Self guided tours in Burlington & Toronto & tree info**

Invasive Maple Trees – Do NOT Plant

Acer negundo **(Manitoba maple)**

The Manitoba maple is also known as box-elder. Native to the prairies in Canada, it has become naturalized in much of our region and is considered invasive in Ontario. These trees grow to 20 metres tall and are fast growing and short lived (maximum 60 years). As with other invasives, Manitoba maples are adaptable to many types of soil, light, and moisture conditions and happily grow in difficult and disturbed areas. These maples are unusual for their genus in having compound leaves with 3-9 toothed leaflets which turn yellow in fall. The young twigs have a waxy powder on them.

In southern Ontario, this tree's weak wood leads to problems with breakage and the requirement for careful pruning to maintain form and to avoid breakage. While it is considered an excellent tree in its native prairies because it tolerates persistently cold temperatures, it is best avoided here.

Manitoba maple images from Ontario Tree Atlas

Acer platanoides **(Norway maple)**

The Norway maple was introduced to North America as an ornamental tree in the mid 1700's. Because it grows in a wide range of conditions and tolerates road salt, it has been widely planted in cities, from where it has escaped to natural areas. It is tolerant of shade and has a long growing season, out-competing native trees and so has become the dominant tree in many parts of our region. It also produces a tremendous amount of seed, which are unpalatable to wildlife. They host the Asian long-horned beetle pest and of course their bitter milky sap makes them useless for producing maple syrup. Many cultivars are sold and it is claimed they are not invasive and produce much less seed. "Crimson King", "Drummondii" (harlequin maple) and "Emerald Queen" are a few examples. While they may produce less seed than the original, it is unlikely that they are beneficial to our native wildlife. This is a small maple and grows to just 12-18 metres. The leaves are dark green & exude a milky sap where the leaf attaches to the twig. Between the lobes (generally 5) the leaf margins are smooth. Late in the season, the well named "black spot" appears on the leaves. While unsightly, there is no useful treatment and it doesn't seem to harm this naturally short-lived tree.

Norway maple images from Credit Valley Conservation

Cross Pollination

Spotlight on Beneficial Insects

Create the Right Habitat & They Will Come!

Hariette Henry - Halton Master Gardener

Parasitic wasps are a group of complex parasitoids within the insect order Hymenoptera which includes the suborder Apocrita. Apocrita is further divided into two informal groups: Aculeta, which includes bees, ants, and nonparasitic wasps, and Parasitica which includes the more than forty families of parasitic wasps. Both groups of insects are considered beneficial.

Parasitic wasps are incredibly diverse in appearance, ranging in size from as small as a fleck of pepper up to nearly 3" long, and from uniformly dark in colour to brightly coloured and patterned. Most females have a long, sharp "ovipositor" which they use to deposit eggs (singly or in groups), into hosts. Different parasitic wasps have different egg-laying equipment depending on what they are parasitizing. Species that penetrate wood to parasitize the larval insects within it, are penetrating into solid substrates and thus are not only larger but are equipped with a significantly larger "ovipositor".

Small parasitic wasp, *Meteorus,* parasitizing a caterpillar. Photo: BugGuide

Megarhyssa macrurus female, common name giant ichneumon wasp or stump stabber, with its large ovipositor which it uses to deposit an egg into a tunnel bored by its host. Photo: Wikipedia

They lay their eggs on or in the bodies of other arthropods, sooner or later causing the death of their hosts. They mainly follow one of two major strategies of parasitism: either they are endoparasitic (developing inside the host) and koinobiont (allowing the host to feed, develop and moult while they are feeding on it); or they are ectoparasitic, (developing outside the host) and idiobiont (paralyzing the host immediately and preventing its further development). Many parasitic wasps use only larvae as hosts, other groups parasitize different host life stages.

Whether on or in the host, the parasitoid egg eventually hatches into a larva. The first instars are often mobile and have strong mandibles to compete with other parasitoid larvae. The subsequent instars are generally more grub-like. The larvae feed on the host's tissues until ready to pupate.

Depending on the species, the parasitoid then may eat its way out of the host or remain in the empty skin. It then spins a cocoon and pupates. As adults, parasitic wasps primarily feed on nectar.

- continued on next page....

Parasitic wasps are very difficult to spot in the garden. The eggs are usually inserted within the bodies of host insects, the larvae glimpsed only as a dark shape within the body of a host insect. The pupae may be seen as a whitish/yellowish, rice-like cocoon near parasitized insects and the adults are often quite small.

Close-up of pupae showing where wasps have emerged

The Horror of Parasitoids

The cruel lifecycle of parasitoids horrified the naturalist Charles Darwin, who wrote in a letter to a colleague in 1860: "I cannot persuade myself that a beneficent and omnipotent God would have designedly created parasitic wasps with the express intention of their feeding within the living bodies of Caterpillars." Parasitoids have inspired science fiction authors and screenwriters to create alien parasitic species that feed on humans. Note the Ridley Scott film "Alien", the first in a series, which appeared in 1979. I will never forget the image of the creature bursting forth from the chest of actor John Hurt.

1990 gargoyle at Paisley Abbey, Scotland, resembling the Xenomorph in Alien. Wikipedia

Despite Victorian sensibilities and the sci-fi creations of the movie industry, it's important to remember that wasps are not at all harmful to humans, they perform a critical function within the garden ecosystem and they are merely trying to ensure the continuation of their species.

Plants to Attract Beneficial Insects to your Garden

Carrot Family (Apiaceae)- attractive to small parasitic wasps and flies: caraway (*Carum carvi*); coriander/cilantro (*Coriandrum sativum*); dill (*Anethum graveolens*); fennel (*Foeniculum vulgare*); Bishop's flower (*Ammi majus*); Queen Anne's Lace (*Daucus carota*); and toothpick ammi (*Ammi visnaga*).

Aster Family (Asteraceae) -attractive to larger predators such as lady beetles and soldier beetles: blanketflower (*Gaillardia spp.*); coneflower (*Echinacea spp.*); coreopsis (*Coreopsis spp.*); cosmos (*Cosmos spp.*); golden marguerite (*Anthemis tinctoria*); goldenrod (*Solidago spp.*); signet marigold (*Tagetes tenuifolia*); sunflower (Helianthus spp.); tansy (*Tanacetum vulgare*); and yarrow (*Achillea spp.*).

https://extension.psu.edu/attracting-beneficial-insects

FIVE-BANDED TIPHIID WASP
Photo: UW Milwaukee

Unusual Parasitic Wasp Behaviour

Here's a recent post from our Master Gardeners of Ontario Facebook Group:
"Anyone tell me what's with this and what are they? It looks like just the one plant, which I believe is goldenrod." Ginetta M

This is an interesting sighting! I believe this to be a congregation of male Typhiid wasps. They may be collecting to wait for females (responding to pheromones) or to forage. The females of some of these wasps are wingless and live in the soil. The males have to find them to mate. The females will lay an egg in grubs in the soil. The larvae feed on the grub and it dies. The larva then pupates and overwinters in soil. Adults emerge in early summer. Adult males often congregate on vegetation, as you see in this photo.
For those dealing with Japanese beetles, this is a beneficial wasp.
Adults that fly take nectar, mostly from Asteraceae and Apiaceae.

Cathy Kavassalis Halton MG

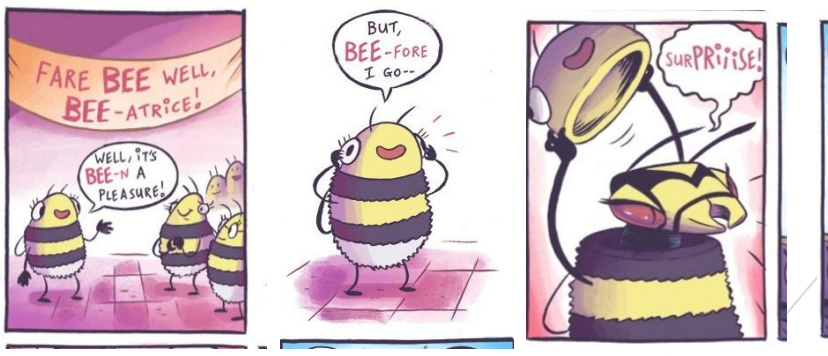
Photos: Ginetta M.

Want to Learn More?

Parasitic Wasps - Bug Guide
Natural Enemies 101 - OMAFRA
Five-Banded Tiphiid Wasps - UW Milwaukee
Parasitic Wasps - NC Extension
Five-banded Thynnid Wasp (Myzinum quinquecinctum)

Watch National Geographic's Body Invaders

How to Bee Punny?



https://www.facebook.com/nellucnhoj

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Question of the Month

Help! What can I do to save them?

"Help! I was removing a squash plant that had recently succumbed to squash vine borer and I noticed I had clipped this leaf off with what looks like lady bugs on them.
What can I do with them so they survive? It's a pretty windy day and I'm worried the leaf will just blow away!"
Kara M.

Photos: Kara M.

Destroy these!

I was hoping when I first looked at the image that they might be the beneficial Two-spotted Stink Bug (Perillus bioculatus), but no unfortunately. These are Brown Marmorated stink bug nymphs, a new serious pest invader in Ontario. Host plants include a variety of fruits (e.g., apples, stone fruits including peaches and apricots, figs, mulberries, citrus fruits and persimmons), crops (e.g., beans, corn, tomatoes and soybeans) and many ornamental plants and weeds.

Cathy Kavassalis
Halton Master Gardener

For further reading:
How to Identify the Brown Marmorated Stinkbug
Scientists spent years on a plan to import this wasp to kill stinkbugs. Then it showed up on its own

Justoutsidetheboxcartoon.com

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"What's Growing On"

Halton Master Gardener Meetings are being held virtually until further notice. We are still accepting new members! Interested? Email **us!**

We are still answering your garden questions, so send us an email! It's what we do best! HaltonMasterGardeners@Gmail.com

CBC Radio Online Chats are continuing until the fall!

CBC radio

Halton Master Gardeners Liza Drozdov, Patty King, Donna Parker and Claudette Sims team up with Toronto Master Gardeners Tina Cesaroni & Tena van Andel & Royal Botanical Garden experts Jon Peter & Alex Henderson to answer your garden questions. Send your own questions to us by Tweet to @CBCHamilton or via email to hamilton@cbc.ca

Grab a cuppa & join us!
Every Monday in July from 12:30 to 1:30 p.m.

Shelter in Place Gardening Events

August 2020

Webinars & Streaming Videos

New Jersey Audubon Garden for Wildlife Series Royal Botanical Gardens
Native Plant Selection
Invasive Species Management
Royal Botanical Gardens
Doctrine of Signatures
•Plant/body Matching Game (English)
•Plant/body Matching Game (French)
BBC TV
Gardeners World episode 15 2020
Gardeners World episode 16 2020
Gardeners World episode 17 2020
Gardeners World episode 18 2020

The "Doctrine of Signatures" video is about recognizing medicinal plants by how form resembles body parts.